



Central Utah Science & Engineering Fair

Preliminary Science Fair Entry Form – Senior Division Grades 9-12



Entry form for the Alpine District, Canyons District, Charter School, Jordan District,
Nebo District, Provo District and Wasatch District Science Fairs

Students in grades 9-12 who are selected to participate in the Alpine, Canyons, Charter School, Jordan, Nebo, Provo, or Wasatch District science fairs must complete both pages of this entry form and all necessary ISEF forms to become eligible to compete in their district science fair as well as the Central Utah Science & Engineering Fair (CUSEF). Completion of this form does not guarantee advancement to CUSEF. Winners will be selected at each of the district science fairs or the charter school science fair to compete at CUSEF on March 25, 2010. There is a \$10.00 registration fee for every student who participates at CUSEF. School districts are required to submit student entry forms and fees to CUSEF by March 5, 2010. CUSEF participants will be required to register online at <http://cusef.byu.edu/regisn/registration.html> by March 5, 2010. For more information visit <http://cusef.byu.edu>.

Student Information

Student's Name _____ Grade Level: (Check One) 9 10
11 12

Mailing Address _____

City _____ Zip _____ Home Phone _____

Is your project a team project? If so, all members must be listed below.

Student's Name _____ Grade Level: (Check One) 9 10
11 12

Mailing Address _____

City _____ Zip _____ Home Phone _____

Student's Name _____ Grade Level: (Check One) 9 10
11 12

Mailing Address _____

City _____ Zip _____ Home Phone _____

Project Information

Project Title _____

School _____ District _____

Teacher Name (first & last name) _____ Teacher's Email _____

Senior Division Categories (check one):

- Behavioral & Social Science
- Biochemistry & Chemistry
- Botany
- Computer Science
- Earth & Space Science
- Engineering
- Environmental Science
- Mathematics
- Medicine & Health
- Microbiology
- Physics
- Zoology

I plan to test the following in my experiments (check all that apply)

- Human Test Subjects
- Non-Human Vertebrate Animals
- Prescription or Over the Counter Drugs, Alcohol, Tobacco
- Hazardous Chemicals, Weapons/Firearms, Lasers, Radiation, etc
- Bacteria, Mold, Fungi, Viruses or Parasites
- Human or Animal Fresh Tissues, Recombinant DNA or Body Fluids
- *If any of the above are marked you must review the Science Fair Project Rules and get prior approval before you begin experimentation.*
- None of these

Answers to the following questions are required for those who advance to the Central Utah Science & Engineering Fair:

- | | | |
|---|--------------------------|----|
| 1. Does your project require electricity? (circle one) | Yes | No |
| 2. Is your project a team project? (circle one) | Yes | No |
| 3. Is your project display too tall for a table? | Yes | No |
| 4. What are the dimensions of your project display (in inches)? | _____ x _____ x _____ | |
| | Depth Width Height | |

Maximum project size is 30 inches deep (front to back), 48 inches wide (side to side) and 108 inches tall (floor to top - including table). All project materials must fit within these dimensions. Projects exceeding these measurements must be modified.

Display and Safety Rules – The Following Items Cannot be Displayed at the Science Fair

1. Living Organisms
2. Plant materials (living, dead or preserved)
3. Taxidermy specimens or parts
4. Preserved animals – includes embryos
5. Human or animal food
6. Human or animal parts or body fluids
7. Soil, sand or waste samples
8. Laboratory/household chemicals – including water
9. Poisons, drugs, hazardous substances or devices
10. Sharp items – pipettes, glass, syringes, needles
11. Dry ice or other sublimating solids
12. Flames or highly flammable display materials
13. Empty tanks that previously contained combustible liquids or gases
14. Batteries with open top cells
15. Photographs of people other than yourself or your family without their written permission.
16. Photographs or other visual presentations depicting vertebrate animals in surgical techniques, dissection, necropsies, other lab techniques, improper handling methods, improper housing conditions etc.

The Central Utah Science & Engineering Fair, and the participating school districts reserve the right to remove anything else displayed with your science fair project that may be deemed hazardous or inappropriate for public display.

Student & Parent/Guardian Signatures

I certify that my science project complies with all of the experimental rules of the Central Utah Science and Engineering Fair. I understand that if I have not complied with these rules that my project could be disqualified from competition. I have also read and I understand the display and safety rules. If I display any of the objects listed above, I am aware that they will be removed and returned at the conclusion of the science fair. If I am selected to participate at the Central Utah Science & Engineering Fair, I agree to set up my project on the appointed day prior to my competition and I will leave my project on display until the conclusion of the awards ceremony.

Signature of Student _____ Signature of Parent/Guardian _____ Date _____

If this is a team project, each additional team member must sign below.

Signature of Student _____ Signature of Parent/Guardian _____ Date _____

Signature of Student _____ Signature of Parent/Guardian _____ Date _____

I give my permission to allow appropriate information about my child to be used for publicity purposes. This includes photographs submitted by me or my child as well as any photographs, videos or likenesses that by be used by the Central Utah Science & Engineering Fair, the BYU David O. McKay School of Education and the BYU-Public School Partnership, or the sponsors of awards for the purposes of illustration, advertising or publication in any manner. I also consent to the use of my child's name in connection therewith.

Signature of Parent/Guardian _____ Date _____

If this is a team project, each additional team member's Parent/Guardian must sign below.

Signature of Parent/Guardian _____ Date _____

Signature of Parent/Guardian _____ Date _____

Teacher Signature

I have reviewed and approved this student's research plan prior to experimentation and certify that they will comply with all of the experimental rules of the Central Utah Science & Engineering Fair.

Teacher Signature

Date

CUSEF Approval for Competition

Regional SRC Approval

Date

Every effort will be made to protect exhibits from loss or damage. However, since the exhibition of projects is open to the public, the CUSEF Committee, Brigham Young University or the BYU-Public School Partnership school districts cannot and will not accept any liability or responsibility of any nature for any theft, loss or damage to any exhibit or any other property of any CUSEF participant. Accordingly, it is recommended that each participant should secure and guard his/her project and take all prudent precautions to prevent any theft, loss or damage to their project.

For more information please visit our website <http://cusef.byu.edu>

The Central Utah Science & Engineering Fair is presented by the BYU David O. McKay School of Education and the BYU-Public School Partnership

Research Plan Instructions

A complete research plan is required and must accompany Checklist for Student (1A)

Provide a typed research plan and attach to Student Checklist (1A).

The research plan for ALL projects is to include the following:

A. Question or Problem being addressed

B. Hypothesis/Engineering Goals

C. Description in detail of method or procedures (The following are important and key items that should be included when formulating ANY AND ALL research plans.)

- **Procedures:** Detail all procedures and experimental design to be used for data collection
- **Data Analysis:** Describe the procedures you will use to analyze the data that answer research question or hypothesis

D. Bibliography: List at least five (5) major references (e.g. science journal articles, books, internet sites) from your literature review. If you plan to use vertebrate animals, one of these references must be an animal care reference.

- Choose one style and use it consistently to reference the literature used in the research plan
- Guidelines can be found in the Student Handbook

Items 1-4 below are guidelines to be followed when applicable:

1. **Human subjects research** (See instructions on p. 13 of the International Rules):

- **Subjects.** Describe who will participate in your study (age range, gender, racial/ethnic composition). Identify any vulnerable populations (minors, pregnant women, prisoners, mentally disabled or economically disadvantaged).
- **Recruitment.** Where will you find your subjects? How will they be invited to participate?
- **Methods.** What will participants be asked to do? Will you use any surveys, questionnaires or tests? What is the frequency and length of time involved for each subject?
- **Risks.** What are the risks or potential discomforts (physical, psychological, time involved, social, legal etc) to participants? How will you minimize the risks?
- **Benefits.** List any benefits to society or each participant.
- **Protection of Privacy.** Will any identifiable information (e.g., names, telephone numbers, birthdates, email addresses) be collected? Will data be confidential or anonymous? If anonymous, describe how the data will be collected anonymously. If not anonymous, what procedures are in place for safeguarding confidentiality? Where will the data be stored? Who will have access to the data? What will you do with the data at the end of the study?
- **Informed Consent Process.** Describe how you will inform participants about the purpose of the study, what they will be asked to do, that their participation is voluntary and they have the right to stop at any time.

2. **Vertebrate animal research** (See instructions on p.17 of the International Rules):

- Briefly discuss **POTENTIAL ALTERNATIVES** and present a detailed justification for use of vertebrate animals
- Explain potential impact or contribution this research may have
- Detail all procedures to be used
 - Include methods used to minimize potential discomfort, distress, pain and injury to the animals during the course of experimentation
 - Detailed chemical concentrations and drug dosages
- Detail animal numbers, species, strain, sex, age, etc.
 - Include justification of the numbers planned for the research
- Describe housing and oversight of daily care
- Discuss disposition of the animals at the termination of the study

3. **Potentially Hazardous Biological Agents** (See instructions on p.21 of the International Rules):

- Describe Biosafety Level Assessment process and resultant BSL determination
- Give source of agent, source of specific cell line, etc.
- Detail safety precautions
- Discuss methods of disposal

4. **Hazardous Chemicals, Activities & Devices** (See instructions on p.25 of the International Rules):

- Describe Risk Assessment process and results
- Detail chemical concentrations and drug dosages
- Describe safety precautions and procedures to minimize risk
- Discuss methods of disposal

Student Checklist (1A)

This form is required for ALL projects.

- 1) a. Student/Team Leader: _____ Grade: _____
Email: _____ Phone: _____
b. Team Member: _____ c. Team Member: _____
- 2) Title of Project: _____

- 3) School: _____ School Phone: _____
School Address: _____

- 4) Adult Sponsor: _____ Phone/Email: _____
- 5) Is this a continuation from a previous year? Yes No
If Yes:
a) Attach the previous year's **Abstract** **Form 1A** and **Research Plan**
b) Explain how this project is new and different from previous years on **Continuation Form (7)**
- 6) **This year's** laboratory experiment/data collection will begin: (must be stated (mm/dd/yy))
Projected Start Date: _____ Projected End Date: _____
(Projected dates are required for projects that require SRC/IRB prior review)
ACTUAL Start Date: _____ ACTUAL End Date: _____
- 7) Where will you conduct your experimentation? (check all that apply)
 Research Institution School Field Home Other: _____
- 8) List name and address of all non-school work site(s):
Name: _____
Address: _____

Phone: _____
- 9) **Complete a Research Plan as described on page 31 and attach to this form.**
- 10) **An abstract is required for all projects after experimentation (see page 28).**

Approval Form (1B)

A completed form is required for each student, including all team members.

1) To Be Completed by Student and Parent

a) Student Acknowledgment:

- I understand the risks and possible dangers to me of the proposed research plan.
- I have read the ISEF Rules and Guidelines and will adhere to all International Rules when conducting this research.
- I have read and will abide by the following Ethics statement

Scientific fraud and misconduct are not condoned at any level of research or competition. Such practices include plagiarism, forgery, use or presentation of other researcher's work as one's own, and fabrication of data. Fraudulent projects will fail to qualify for competition in affiliated fairs or the ISEF.

Student's Printed Name

Signature

Date Acknowledged
(Must be prior to experimentation.)

b) Parent/Guardian Approval: I have read and understand the risks and possible dangers involved in the **Research Plan**. I consent to my child participating in this research.

Parent/Guardian's Printed Name

Signature

Date of Approval
(Must be prior to experimentation.)

2) To be completed by the Fair SRC

(Required for projects requiring prior SRC/IRB APPROVAL. Sign 2a or 2b as appropriate.)

a) Required for projects that need prior SRC/IRB approval BEFORE experimentation (humans, vertebrates or potentially hazardous biological agents)

The SRC/IRB has carefully studied this project's **Research Plan** and all the required forms are included. My signature indicates approval of the **Research Plan** before the student begins experimentation.

SRC/IRB Chair's Printed Name

Signature

Date of Approval
(Must be prior to experimentation.)

OR

b) Required for research conducted at all Regulated Research Institutions with no prior fair SRC/IRB approval.

This project was conducted at a regulated research institution (**not home or high school, etc.**), was reviewed and approved by the proper institutional board before experimentation and complies with the ISEF Rules. **Attach (1C) and required institutional approvals (e.g. IACUC, IRB)**

SRC Chair's Printed Name

Signature

Date of Approval

3) Final ISEF Affiliated Fair SRC Approval (Required for ALL Projects)

SRC Approval After Experimentation and Shortly Before Competition at Regional/State/National Fair

I certify that this project adheres to the approved **Research Plan** and complies with all ISEF Rules.

Regional SRC Chair's Printed Name

Signature

Date of Approval

State/National SRC Chair's Printed Name

Signature

Date of Approval

(where applicable)